FORM PTO-1390 (REV. 11-2000) U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371	PTT-122(402539US)
	U S APPLICATION NO (If known, see 37 CFR 1 5) **09/936110**

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/EP00/01348	18 February 2000	10 March 1999

TITLE OF INVENTION
ENCODING USER SUBSCRIPTION IN IP ADDRESS

APPLICANT(S) FOR DO/EO/US
BLOM, Marcus Anthonius

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [X] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.

2. [ ] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.

3. [ ] This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.

4. [ ] The US has been elected by the expiration of 19 months from the priority date (Article 31).

5. [ ] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. [ ] is attached hereto (required only if not communicated by the International Bureau).
   b. [ ] has been communicated by the International Bureau.
   c. [ ] is not required, as the application was filed in the United States Receiving Office (RO/US).

6. [ ] An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. [ ] is attached hereto.
   b. [ ] has been previously submitted under 35 U.S.C. 154(d)(4).

7. [ ] Amendments to the claims of the International Aplication under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [ ] are attached hereto (required only if not communicated by the International Bureau).
   b. [ ] have been communicated by the International Bureau.
   c. [ ] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [ ] have not been made and will not be made.

8. [ ] An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).

9. [ ] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).

10. [ ] An English lanugage translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. [X] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.   with form PTO/SB/08B, International Search Report and three (3) cited references.

12. [ ] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.

13. [ ] A FIRST preliminary amendment.

14. [ ] A SECOND or SUBSEQUENT preliminary amendment.

15. [ ] A substitute specification.

16. [ ] A change of power of attorney and/or address letter.

17. [ ] A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.

18. [ ] A second copy of the published international application under 35 U.S.C. 154(d)(4).

19. [ ] A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).

20. [X] Other items or information: postcard receipt, Cover Letter, Application Data Sheet, International Publication No. WO 00/54477 with One (1) sheet of drawings (FIGs. 1-2), Notification of International Application Number and International Filing Date with copy of PCT Request (5 pps.), PCT Demand (5 pps.), Notification of Receipt of Demand (1 pp.), PCT Written Opinion with Annex D4 (24 pps.), Notification of Transmittal of International Preliminary Examination Report with amended sheets (22 pps.), Submission of Priority Document (2 pps.), Certified copy (with English translation) of Netherlands Appl. No. 1011524.

page 1 of 2

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO	ATTORNEY'S DOCKET NUMBER
09/936110	PCT/EP00/01348	PTT-122 (402539US)

21. ☒ The following fees are submitted:	CALCULATIONS PTO USE ONLY	
BASIC NATIONAL FEE (37 CFR 1.492) (1) - (5)):		
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO **$1000.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$860.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO **$710.00**		
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$690.00**		
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) **$100.00**		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 860.00	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$ 00.00	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	3 - 20 =	0	x $18.00	$ 00.00	
Independent claims	3 - 3 =	0	x $80.00	$ 00.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ $270.00	$ 00.00	
TOTAL OF ABOVE CALCULATIONS =				$ 860.00	
☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. +				$ 00.00	
SUBTOTAL =				$ 860.00	
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				$ 00.00	
TOTAL NATIONAL FEE =				$ 860.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +				$ 00.00	
TOTAL FEES ENCLOSED =				$ 860.00	
				Amount to be refunded:	$
				charged:	$

a. ☒ A check in the amount of $ _860.00_ to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of $ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. _13-3083_ . A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO

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Peter L. Michaelson
SIGNATURE

Peter L. MICHAELSON
NAME

30.090
REGISTRATION NUMBER

Customer No. 007265

Title: Encoding user subscription in IP address.

ARTICLE 34 AMD'r

A.   Background of the invention

The invention is related to a method for the

5 transmission, via an IP access device and various IP
routers, of IP packets, originating from users with
different Quality-of-Service contracts, whereas, upon
login of a user, said IP access device assignes an IP
address to said user and, moreover, retrieves, from a

10 Quality-of-Service database Quality-of-Service parameters
assigned to said user.   It is known in the prior art, for
instance from reference 1, that IP packets can be handled
by IP routers differentially on the basis of the so-called
IP precedence bits in the header of a packet, and that the

15 IP precedence bits can be set by an IP router at the edge
of the network ("IP edge router") on the basis of various
attributes of the IP packet ("classification"). It is also
known that, on the basis of the precedence bits, the IP
traffic of users with different service subscriptions can

20 be differentially handled ("per hop behaviour"), i.e.
according to the subscription-related contract agreements.
Said classification and "per hop behaviour" are the
building blocks with which, in an IP network, future-
determined quality guarantees can be given which are

25 required for demanding applications, such as IP telephony,
IP videophony or gaming.

The prior art has the following disadvantages: (1)
classification requires much processor capacity of the IP
edge router, whereby, with the current technology, it is

30 deployable for far too few users simultaneously and
therefore unsuitable for large-scale use, and (2)
continuous adjustment of the configuration of all IP edge
routers in the network is necessary, viz. upon every login
or logout of a user.

35 B.   Summary of the invention

routers in the network is necessary, viz. upon every login
or logout of a user.

B.   Summary of the invention

1.   The invention seeks to obviate the said
disadvantages. To this end the invention provides a
method for the transmission, via an IP access device
and various IP routers, of IP packets, originating
from users with different Quality-of-Service
contracts,   whereas, upon login of a user, said IP
access device assignes an IP address to said user and,
moreover, retrieves, from a Quality-of-Service
database Quality-of-Service parameters assigned to
said user, executing the following steps:

_a._ said IP access device inserts, on the basis of said
     retrieved Quality-of-Service parameters , in said
     IP address assigned to the user, in a reserved IP-
     address space, a bit pattern which is
     representative for said the user's Quality-of-
     Srvice parameters;

_b._ said IP routers detect at said reserved IP-address
     space said bit pattern and process the IP packet
     according to the Quality-of-Service parameters as
     indicated by said detected bit pattern.

When a user logs in (for example upon establishing the PPP
protocol), the user name/password combination is used to
search for the subscription of the user in a database. By
means of a specific bit pattern in a reserved space in the
IP address which is assigned to the user, it is
subsequently designated which QoS-subscription the user
has. The bit pattern in said reserved IP-address space can
be assigned to a set of applications where the IP packets
will be subsequently processed according the Quality-of-
Service parameters.

The IP edge routers classify each IP packet after detection
the bit pattern in said reserved IP-address space. For

this, a fixed setting of the IP edge routers with a limited
number of (selection) rules is sufficient, whereby only
little processor capacity of the IP edge router and no
continuous adjustment of configuration of the IP edge

5   routers is required.

C.   Description of the diagram

The mode of operation of the invention is further
explained on the basis of two figures.

Fig. 1 shows how an IP address is assigned to a user. In

10 this example, two subscriptions are distinguished: ordinary
and special. Users with a special subscription receive an
IP address with the format
"xxxxxxxx.xxxxxxxx.11111111.xxxxxxxx", i.e. the bit pattern
"11111111" in positions 17-24 counted from the left, where

15 "x" can be a 0 or a 1. Users with an ordinary subscription
receive an IP address with another bit pattern in positions
17-24. In the customary notation for the Internet, this is
an address "a.b.255.d", where 0<=a,b,d<=255, as IP address
for users with a special subscription, and "a.b.c.d", where

20 0<=a,b,d<=255 and c<255, as IP address for ordinary users.
Fig. 2 shows how an IP address of this example is used by
the IP edge router to set the IP precedence bits, in this
example to the value of 0 for ordinary users and 7 for
special users. D.   References

25 1.   Beyond Best Effort: Router Architectures for the
Differential Services of Tomorrow's Internet", Kumar VP et
al., IEEE Com. Mag. May 1998 pp 152-164

E.   Claims

1.   A method for the transmission, via an IP access device
and various IP routers, of IP packets, originating from
users with different Quality-of-Service contracts,
5   whereas, upon login of a user, said IP access device
assignes an IP address to said user and, moreover,
retrieves, from a Quality-of-Service database Quality-of-
Service parameters assigned to said user , characterised by
the steps:
10   a. said IP access device inserts, on the basis of said
retrieved Quality-of-Service parameters , in said IP
address assigned to the user, in a reserved IP-address
space, a bit pattern which is representative for the user's
Quality-of-Srvice parameters;
15   b. said IP routers detect at said reserved IP-address space
said bit pattern reserved IP-address space and process the
IP packet according to the Quality-of-Service parameters as
indicated by said detected bit pattern.

2.   An IP access device for the transmission of IP
20   packets, originating from users with different Quality-of-
Service contracts, comprising means (Proc1) for assigning
an IP address to such a user and, moreover, for retrieving,
from a Quality-of-Service database, Quality-of-Service
parameters assigned to said user, characterised by means
25   for inserting, in a reserved IP-address space, a bit
pattern which is representative for the user's Qualtity-of-
Service parameters.

3.   An IP router, for routing, on the basis of IP
addresses, IP packets, originating from users with
30   different Quality-of-Service contracts, characterised by
means (Proc2) for detecting a bit pattern in a reserved
IP-address space of such IP packet, representative for the
relevant user's Quality-of-Service parameters, and for
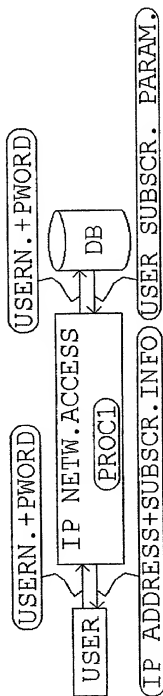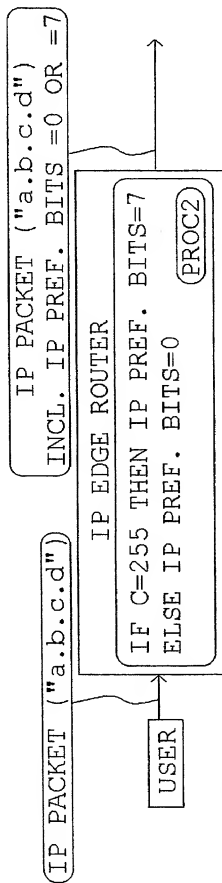processing the IP packet according to the Quality-of-

Service parameters as indicated by said detected bit
pattern.

FIG. 1

FIG. 2

Atty. Doc. No.: _____

DECLARATION AND
POWER OF ATTORNEY
(Utility Patent Application)

As a below named inventor, I hereby declare:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below), of the subject matter which is claimed and for which a patent is sought on the invention entitled:

"Encoding user subscription in IP address"

the specification of which:

___ is attached hereto
___ was filed on _____ as Application Serial
___ No. _____ with amendment(s) filed _____
___ was filed as PCT international application: PCT/EP00/01348 ✓
___ and was amended under PCT Article 19

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations section 1.56.

I hereby claim foreign priority benefits under Section 119 of Title 35, United States Code for the above-identified US patent application based on the patent or inventor's certificate identified below and having a filing date before that of the US patent application for which priority is claimed:

			Priority Claimed
Application No	Country	Filing Date	under 35 USC 119
1011524 ✓	NL ✓	March 10, 1999 ✓	YES

I hereby claim the benefit under Section 120 and/or Section 119(e) of Title 35 of the United States Code of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by Section 112 of Title 35 of the United States Code, I acknowledge the duty to disclose material information, as defined in Section 1.56 of Title 37 of the Code of Federal Regulations, which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

| | | Status | | |
| Application Serial No. | Filing Date | Patented | Pending | Abandoned |

Power of attorney:

-1-

As a named inventor, I hereby appoint:

> Peter L. Michaelson (Reg. No. 30,090)
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/0 —

as my attorneys to prosecute this application and to transact all business in
the United States Patent and Trademark Office in connection therewith.

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I hereby declare that all statements made herein of my own knowledge are true
and that all statements made on information and belief are believed to be
true; and further that these statements were made with the knowledge that
willful false statements and the like so made are punishable by fine or
imprisonment, or both, under Section 1001 of Title 18 of the United States
Code and that such willful false statements may jeopardize the validity of the
application or any patent issued thereon.

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Citizenship: The Netherlands
             country

Signature: _____

Date: September 5 , 2001

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